Feature resolution, feature conflicts and the structure of *either…or*

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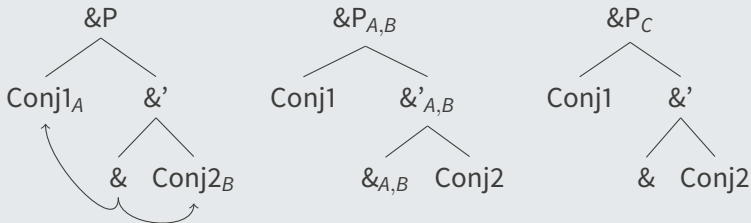
Introduction
Basics

- ▶ It is well established that conjunction structures involve a resolution of features of the two conjuncts.
- ▶ The conjunction of two singulars in English yields plural agreement on the verb.

(1) The owl and the elephant **are/*is** watching cartoons.

- ▶ Resolution is also well established for languages with grammatical gender agreement, notably Slavic languages.

▶ Assume that conjunctions are asymmetrically structured [Munn, 1993].

▶ Step 1: the head undergoes agreement with the two conjuncts.
▶ Step 2: the values are copied to the head, percolation to the phrasal level.
▶ Step 3: resolution that translates the combination of features into a single value.

► What determines when resolution happens?
  ► Is it a property of just conjunction, or does it happen with disjunction too?
  ► Will a head that *can* have a resolution effect, *always* show it?

Disjunction
Agreement

- ▶ How does disjunction fit in?
- ▶ In general, disjunctions don't seem to show agreement resolution.

(2)   The boy or the girl **is** going to the party.

- ▶ But it's not immediately clear why...

- ▶ How does disjunction fit in?
- ▶ In general, disjunctions don't seem to show agreement resolution.

(3)   The boy or the girl **is** going to the party.

- ▶ But it's not immediately clear why...
    - ▶ Is the problem syntactic?
    - ▶ Is the problem semantic?

(4) a. Óf   het meisje óf <u>de jongens</u> <u>zijn</u> naar de bioscoop
       either the girl   or the boys   are to   the movie
       geweest
       been
       'Either the girl or the boys have been to the movie.'

    b. Óf   de jongens óf <u>het</u> <u>meisje</u> <u>is</u>/*zijn naar de
       either the boys   or the girl   is/*are to   the
       bioscoop geweest
       movie   been
       'Either the boys or the girl has been to the movie.'

(5) a. Entweder wir oder <u>ihr</u> <u>seid</u>/*sind gekommen.
    either   we or   you.PL be.2PL/*be.PL come.PAST
    'Either we or you (pl) came.'

  b. Entweder ihr   oder <u>wir</u> <u>sind</u>/*seid   gekommen
    either   you.PL or   we be.PL/*be2.PL come.PAST
    'Either you(pl) or we came.'

▶ Asymmetry between conjunction and disjunction.

(6) Whereas conjunction usually shows resolved agreement, disjunction usually shows closest agreement.

▶ Two (of the) possible options for this:

  1 Conjunction and disjunction have a different syntax.
  2 *And* idiosyncratically allows resolution, but *or* does not.

▶ Both we posit are not fully correct, but point 2 is closer.

- ▶ One way to look at the conjunction/disjunction asymmetry is to assume that they have a different syntax.
- ▶ Asymmetric conjunction structures are well supported.
- ▶ Disjunction could involve deletion in the first part.
- ▶ Schwarz [1999] proposes that disjunctive *either … or* sentences are created via Gapping.

(7) Either a boy ~~is going to the party~~ or a girl is going to the party.

- ▶ If so, then agreement is computed locally, and we don't expect reosolution.

- ▶ Schwarz offers some support for his proposal from *either…or* constructions.
- ▶ *Either* can float away from its disjunct but only under certain circumstances.
- ▶ These constraints reflect well known constraints on gapping.

▶ Either may not be distant from its licensing disjunction if that disjunction is not final.

(8) a. ?? Either [she turned the test] or [~~she turned~~ the homework in].

    b. ? Either [he invited you] or [~~he invited~~ me to a party].

▶ The particle *in* / PP *to a party* in the conjunct containing the gap does not have a correlate in the first conjunct.

- ▶ Either may not be distant from its licensing disjunction if that disjunction is not final.

(10) a. ?? Either [she turned the test] or [~~she turned~~ the homework in].

   b. ? Either [he invited you] or [~~he invited~~ me to a party].

- ▶ The particle *in* / PP *to a party* in the conjunct containing the gap does not have a correlate in the first conjunct.
- ▶ Gapping requires such a correlate.

(11) John dropped the coffee and Mary (*clumsily) ~~dropped~~ the tea.

► Either may not be separated from the licensing disjunction by an island.

(12)   * John was either wondering whether to resign or retire.

► Either may not be separated from the licensing disjunction by an island.

(14)   * John was either wondering whether to resign or retire.

► This reflects what happens in Gapping.

(15)   *Some were wondering whether to write to Bill and others ~~were wondering~~ [~~whether to write~~ to Mary]

- ► However, there are pretty convincing arguments that an ellipsis account is not right.
- ► den Dikken [2006] argues that this is wrong because:
  - ► Whilst Schwarz's account offers an account of left-either, it offers no account of right-either constructions.
  - ► *Either…or* constructions are tightly connected to contrastive focus.
- ► From this, he offers an account of *either…or* that assumes a hierarchically structured disjunction familiar from conjunction.
- ► *Either* and *or* are particles that attach to contrastive focus.

- ▶ There is also evidence from agreement that a Gapping account is wrong.
- ▶ This comes in three types.
    1. Ineffability due to feature clash
    2. Strategies to fix a clash: closest, default, highest
    3. Resolution does exist!

Arguments from Agreement
Ineffability

- ▶ Pullum and Zwicky [1986] note that for some speakers, a clash in the person and number features of two disjuncts will cause a sentence to be ineffable when the disjunction controls agreement.
- ▶ Ostensibly here, the verb tries to spell out the competing features of the disjuncts, but can't.
- ▶ Syncretism of verb forms helps.

(16) Either they or I **{*are/*am/*is}** going to have to go.

(17) Either we or they **are** going to have to go.

- ▶ This interaction between the two disjuncts makes little sense on a gapping account.

- ▶ Verbal syncretism fixing ineffabilities caused by agreement clashes are well documented in many languages.
- ▶ Similar facts regarding conjunctions in German [Pullum and Zwicky, 1986], Icelandic [Zaenen and Karttunen, 1984], Hindi [Bhatt and Walkow, 2013] and Russian [Asarina, 2010] amongst others.
- ▶ That this pattern is seen in disjunction indicates that there is a common syntax between the two.

Arguments from Agreement
Strategies to fix a clash

Arguments from Agreement
Resolution in Disjunction: neither...nor

► Finally, we *do* see isolated instances of where we find resolution effects in disjunction.

► Negation appears to have some kind of an effect that increases the likelihood of disjunction resolution.

"With weder …noch, *either singular or plural [agreement] is possible, but the plural is more frequent." [Durrell, 2002, 237]*

(18) In Bonn **waren** sich weder   Kabinett noch
      In Bonn was.PL self   neither Cabinet nor
      Regierungsfraktionen einig.
      party   united
      'In Bonn, neither the Cabinet nor the party were united.'
      (Zeit)

▶ Object agreement in Dargi:

(19) [...] ya <u>pulaw</u>,   ya <u>ʕärʕä</u>   ħe-**d**-arg-i-ra
         or pilaf(ABS) or hen(ABS) NEG-**PL**-find-AOR-1
     'Neither the pilaf nor the chicken was there.'
     [Dargi, van den Berg [2006]]

► And it appears to be possible in Passamaquoddy for subject agreement.

(20)   Cihpolakon kosona kuhas ma=te
       eagle   or   hawk NEG=EMPH
       n-kisi-maton-**oq**
       1-PERF-fight-INV-NEG-**3PL**
       '(Neither) and eagle (n)or a hawk attacked me.'
       [Passamaquoddy, Bruening, 2002]

Feature resolution in disjunction

Arguments from Agreement
Resolution in Disjunction: Inclusive disjunction

- ▶ Kazana [2011] shows that the inclusive disjunction reading increases the likelihood of resolution in disjunctions in Modern Greek.
- ▶ In the following, exclusive context, 14/20 speakers preferred singular agreement.
- ▶ Only 4/20 preferred plural.

(21) O   kostas   i i   Maria   tha me pari   me
      the.SG Kostas.SG or the.SG Maria.SG will me pick.up.SG with
      to   aftokinito
      the car
      'Kostas or Maria will pick me up with the car.'

► In the following, which is clearly an inclusive context, 13/20 preferred plural agreement, and only 7/20 preferred singular.

(22) I   jineka   i to pedi   exun   protereotita ja to
      the woman.SG or the child.SG have.PL priority   for the
      emvolio jata   tis gripis
      vaccine against the flu

      'The woman or child have priority for the flu-vaccine.'

► Kazana also finds a strong effect of the *neither…nor* construction favouring plural agreement.
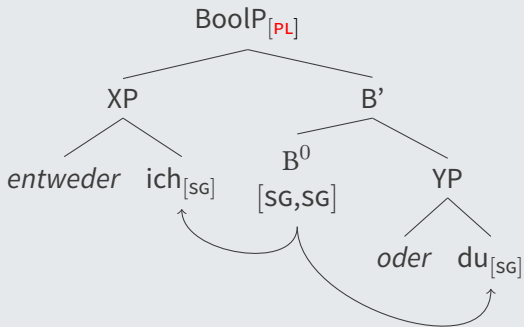
Arguments from Agreement
Resolution in Disjunction: Arbitrary

▶ Sometimes, it seems to be arbitrary.
▶ In German, the disjunction of two singulars will yield plural agreement.

(23)   a.   Entweder der Junge oder das Mädchen sind/%ist
             either   the boy   or   the girl   are/is
             gekommen.
             come.past
             'Either the boy or the girl came.'

       b.   Entweder ich oder du sind gekommen.
             either   I   or you are come.PAST
             'Either you or I came.'

- ▶ German seems to exceptionally allow resolved agreement here.
- ▶ We assume that for this, the disjunctive head in German is prespecified with two singular features.
- ▶ These features are uninterpretable, and must be licensed by singular features on the disjuncts.
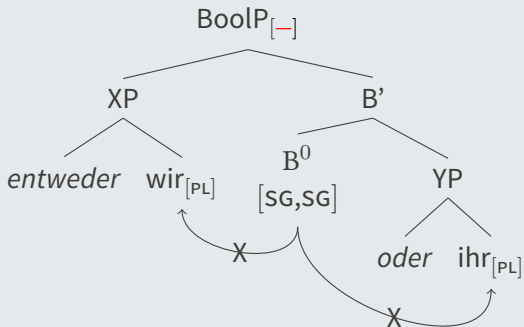- ▶ If they are, then the combination of [sg+sg] is resolved to plural.

- ▶ To some extent this is an arbitrary solution.
- ▶ But the problem itself is fairly arbitrary...

- ► To some extent this is an arbitrary solution.
- ► But the problem itself is fairly arbitrary...
- ► Resolved agreement is not the general pattern in German, since it sometimes requires closest agreement.

(25) a. Entweder wir oder ihr   seid/*sind   gekommen.
        either   we or you.PL be.2PL/*be.PL come.PAST
        'Either we or you (pl) came.'

   b. Entweder ihr   oder wir sind/*seid   gekommen
        either   you.PL or we be.PL/*be2.PL come.PAST
        'Either you(pl) or we came.'

- ► If the features are unlicensed, then they are deleted and agreement must be with the closest disjunct.

Speculation
What links the other cases?

▶ We have seen that resolution in disjunction can be influenced by the inclusive reading and by negation (see Kazana, 2011).

▶ Both of these display a 'conjunction-like' behaviour.

▶ By this, we mean that 'when A and B is of the same truth, the proposition is true'.

▶ It's perhaps easier to see this by looking at truth tables…

A	B	Result
1	1	1
1	0	0
0	1	0
0	0	0

Table 1: Logical conjunction

▶ Unification reading, resolved agreement.

A	B	Result
1	1	0
1	0	1
0	1	1
0	0	0

Table 2: Exclusive disjunction

► No conjunction reading, no resolved agreement.

A	B	Result
1	1	1
1	0	1
0	1	1
0	0	0

Table 3: Inclusive Disjunction

▶ Since a conjunction reading is possible, resolved agreement is possible

- *Neither…nor* seems to have a conjunction like reading as well.
- The negation affects both of the disjuncts.
- One paraphrase of (26a) is (26b).

(26) a. Neither the cat nor the dog are here.
      b. Both the cat and the dog are not here.

A	B	Result
1	1	0
1	0	0
0	1	0
0	0	1

Table 4: Logical *nor*

► The following statement fits it in with the other cases:

► *OP(A, B) shows resolved agreement, if when both P and Q have the same value, the OP(A, B) = 1.*

► Whether this turns out to be the case or not, we leave open.

▶ The observation here seems to be that what we've termed the conjunction reading is sometimes enough to license feature resolution.

▶ Whilst we offer no concrete account beyond the observation (our future work!), what is clear is that the interpretation of disjunction has an effect on the agreement.

▶ Thus, it seems to be not the case that the disjunctive head is idiosyncratically unable to resolve features.

▶ It sometimes *can*, if given the chance to.

- ▶ Disjunction and conjunction behave differently in agreement.
- ▶ Disjunction usually shows a closest agreement effect.
- ▶ The syntax of disjunction and conjunction is not different.
- ▶ Specifically, disjunction is not derived by Gapping.
- ▶ Plenty of evidence suggests that disjunction has the same syntax as conjunction.
- ▶ Resolution is not systematically absent from disjunction: when it shows a semantics like conjunction, resolution can show up.
- ▶ Future work: how far does this semantic effect on agreement stretch?

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